1867MNRAS..27...92B

Morning Illumination of Hippalus (Lunar Crater).

By W. R. Birt, Esq.

I should not have troubled the Society with this communication on a subject which is now, perhaps, of minor interest, instances of our general ignorance of minute lunar details being numbered by thousands, if not by tens of thousands, had not a communication on the same crater appeared in the *Monthly Notices,* vol. xx. p. 211. The observations forming the basis of that communication were made on March 2, 1860, with the Society's telescope, Sheepshanks No. 5, aperture 2¾ inches, power 150 (?) During a very casual glance at *Hippalus* on the evening of September 19, 1866, with the Royal Society's telescope of 4¼-inch aperture, power 230, I saw very distinctly the division into the two portions, rugged and smooth, spoken of in my former communication, and noticed what the smaller telescope *did not show,*—the rill δ on Beer and Mädler's Map, No. 56 of Mädler's Catalogue in Beer and Mädler's *Beiträge,* and No. 268 of Schmidt's Catalogue. This rill I noticed to be certainly coincident with the well-marked division between the rugged and smooth portions seen in 1860. Having obtained so striking a confirmation of the correctness of my former observations with a more powerful instrument which clearly revealed the nature of the separation on the floor of *Hippalus,* and which led me to regard it as a formation allied to the Plain of Dionysius (see *Reports of the British Association,* 1865, p. 304), I consulted Beer and Mädler's Map as to the delineation of this rill with a result by no means rare, viz. that in this as in numerous other instances their delineations are very faulty. The N.N.W. end of the rill takes its rise at a more northerly point, and also that the part of the rill which crosses *Hippalus* with the S.W. and W. parts of the wall enclose a much greater portion of the floor than shown by Beer and Mädler. The evening of October 19, 1866, being fine, and definition admirable, although clouds were frequently passing, I very carefully scrutinised *Hippalus* with this result:—My observations in 1860 were confirmed in every particular, except, perhaps, that with the larger instrument, the semi-elliptical and sinuous form of the wall came out with great precision, which, as seen in the smaller instrument, is described as nearly semicircular. The two very minute craters were distinctly seen, one very near, but on the E.N.E. side of the rill, the other on the opposite side at the S. extremity of the wall, also close to the rill. Neither of these are given by Beer and Mädler, but in the place of the more southern crater, close to the δ, a mountain is indicated on their Map. The crater on the E.N.E. I observed to be surrounded with a lucid, glowering appearance, and I have this indicated at the same place in a sketch made on March 5, 1860 (when the small instrument was used), as a bright spot, part of the

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1867MNRAS..27...93B

rill having been seen at the same time as a bright line. Clouds coming over prevented me from further examining *Hippalus* on the evening of October 19, 1866.

As on the four occasions alluded to above the observations so far confirm each other as to indicate that observations made with small instruments are deserving of attention, and that the smallest of the Society's astronomical telescopes may be used with advantage, I trust I may be allowed thus far to take up the time of the Meeting with a subject otherwise unimportant.

On the Obscuration of the Lunar Crater "Linné."

By W. R. Birt, Esq.

The interesting phenomenon of a change in the appearance of the crater "Linné" was communicated to me by Herr Schmidt, the Director of the Observatory at Athens, an extract from whose letter is as follows:—

"*Athènes, Nov.* 17, 1866.

"Monsieur,—Depuis quelque tems je trouve qu'un cratère de la lune situé dans le plaine du *Mare Serenitatis*, n'est plus visible. Cette cratère nommé par Mädler 'Linné' se trouve dans la quatrième Section de Lohrmann sous le signe A. Je connais ce cratère depuis 1841, et même en pleine lune il n'était pas difficile de l'apercevoir; 1866 en Octobre et Novembre, à l'époque du maximum de son apparence, c'est à dire un jour avait le lever du soleil à son horizon, cette profonde cratère, dont le diamètre est 5·6 milles Anglais, était parfaitement disparu; seulement un lueur, un petite nuage blanchâtre se présentait au lieu de Linné. Auriez-vous bien la bonté de faire quelques observations sur cette localité.

"J. F. JULIUS SCHMIDT."

The earliest information respecting the crater I received from Mr. Buckingham, who favoured me with a copy of a photograph taken by him on November 18, 1866. On this photograph the place of "Linné" is visible, but faint. I have during the last lunation received records of observations from the following gentlemen: Doctors Mann and Tietjen, and Messrs. Talmage, Webb, Slack, Grover, and Jones. On the 13th, when the terminator passed over the east boundary of the *Mare Serenitatis*, the place of "Linné" was seen by Messrs. Webb and Talmage; Mr. Webb's aperture 9¼-inch silvered glass reflector, and Mr. Talmage's 10-inch refractor of Mr. Barclay at Leyton. Mr. Webb described the appearance as an ill-defined whitishness on the site of "Linné." Mr. Talmage recorded "a dark circular cloud." The exact position of these appearances was carefully ascertained afterwards and found to agree with the place of "Linné." Doctor Mann and

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